REMARKS

Claims 1, 3, 8, 10 and 17 have been objected to for various reasons.

The applicant respectfully declines to amend the preambles of claims 1 and 10 in the manner suggested by the Examiner, as the Examiner's suggestion would appear to recite patentable subject matter in the preamble. The claims are fully in accordance with 37 CFR 1.75 as filed and as now simply clarified by amendment..

Claim 3 was amended to recite "a decoding process" and an additional clarifying amendment was made to state that "during rounds of decoding absolute values of extrinsic values tend to increase". A similar merely clarifying amendment was made to dependent claim 12. Claims 8 and 17 where amended to define the abbreviation of WCDMA (not WCDAM as stated by the Examiner). Support for this latter amendment is found at least at page 9, line 6.

In addition, at least claims 1, 3 and 10 were revised in format to add indentation.

These various amendments are deemed to be merely cosmetic in nature, and the full range of equivalents for all claim elements should remain intact.

Claims 4-7, 9, 13-16 and 18 were objected to. In response, claims 4 and 13 were rewritten in independent form to include subject matter found in the independent claims 1 and 10, respectively. Claims 4-7, 9, 13-16 and 18 are thus deemed to be in condition for allowance.

The remaining claims 1-3, 8, 10-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf et al. (US 6,898,254). This rejection in respectfully disagreed with, and is traversed below.

The Examiner refers to various figures and passages from Wolf et al. that relate to their purported invention of providing a turbo decoder stopping function criteria that does not use a divide

operation, in contradistinction to their earlier filed provisional application 60/179,255. As they discuss in the Background section in columns 2 and 3, a number of stopping criteria for turbo decoders have been used/proposed in the prior art. At least one considers a change in signal quality, and requires a comparison of a signal-to-noise ratio (SNR).

The Examiner concludes his discussion by admitting that Wolf et al. do not explicitly detail "determining whether the signal comprises a valid code word or comprises only noise" as recited in claims 1 and 10, but states that one of ordinary skill in the art would have found it obvious to "substitute the generation of signal quality estimate and then compared with the threshold value with the claimed means for detecting or monitoring the decoder. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated in order to simplify hardware implementation and improve process speed (see col. 3, lines 25-27)" (emphasis in original).

It is first pointed out that Wolf et al. do not disclose or suggest that they appreciate the problem(s) that can arise if a decoder attempts to decode what it believes to be a code word, that is in fact just noise. Reference in this regards can be made, for example, to the instant specification at page 8, lines 6-19.

In fact, Wolf et al. state in col. 5, lines 41-48:

"The number of iterations performed varies, typically ranging from three to twenty. Depending on the noise pattern of a given received codeword, the decoder might reach its optimum solution after only one or two iterations. The remaining iterations would not improve performance and are a waste of processing power and time. **If the noise pattern of a received codeword is severe, the decoder may require many iterations to reach an optimum solution.**"

Based on at least this passage it would appear that if the decoder of Wolf et al. attempted to decode a noise-only signal, the decoder would simply execute a maximum possible number of iterations without ever reaching an optimum solution.

The Examiner's citation to col. 3, lines 25-27, when read in its broader context, is as follows:

"The present application teaches **a stopping criterion implementation that does not require division by a variable**. By manipulating the comparison equation, **the previously required division functions are replaced by multiplications. This innovation greatly simplifies hardware implementation and improves processing speed**." (emphasis added).

That is, the mention by Wolf et al. of simplifying a hardware implementation and improving processing speed is in the context of avoiding the use of division circuitry and operations (see col. 3, lines 9-21) when determining turbo coder stopping criteria.

Further, the Applicant submits that Wolf at al. teach in col. 7, lines 17-30, that their method is based on the mean and variance of extrinsic values. They then derive from the formulae in col. 7, lines 20-30 the new formulae in col. 8, lines 5-10. The last inequality col. 8, lines 8-11, is the basis for their stopping criterion. The Applicant makes note of the fact that one cannot derive the inequalities employed by the exemplary embodiments of this invention from Wolf et al. at least for the reason that they use a variance. Wolf et al. teach that their method requires information on the SNR, col. 7, lines 54-56, through the formula (1+1/K), and that the information can be stored into a lookup table prior to the start of a turbo decoder, see col. 8, lines 15-19. In contradistinction, the exemplary embodiments of this invention do not require knowledge of the SNR at all. Due at least to this one fundamental difference, the claimed invention would not be obvious to a person having ordinary skill in the art, in light of teachings of Wolf et al.

It is thus submitted that one skilled in the art would not find claims 1-3, 8, 10-12 and 17 to be obvious in view of the teachings of Wolf et al. This is true at least for the reason that one skilled in the art, when guided by the teachings of Wolf et al., would not even realize that a problem existed when a decoder attempted to decode a noise signal, and clearly would not be guided to provide a solution to the problem as recited in claims 1-3, 8, 10-12 and 17.

Further in this regard, and by example, claim 3 recites in part that "determining accurately **distinguishes a valid code word from noise, and also** obtains information that is indicative of

the quality of a decoding process".

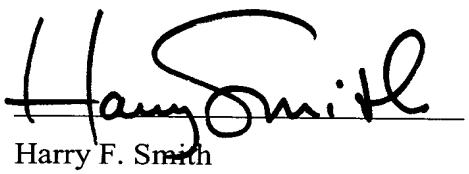
The cited portion of Wolf et al. does not suggest a process for distinguishing a valid code word from noise, instead it is concerned with determining a turbo decoder stopping criterion, and thus it further does not suggest also obtaining information that is indicative of the quality of a decoding process. The same argument can be made with respect to claim 12.

The Examiner is respectfully requested to reconsider and remove the rejection under 35 U.S.C. 103(a), and to also allow claims 1-3, 8, 10-12 and 17.

Claims 19-29 are newly added, and are supported in the specification at least at page 14, lines 1-5, and at page 10, lines 7-14. No new matter is added.

An early notification of the allowance of claims 1- 29 is earnestly solicited.

Respectfully submitted:



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